







Key characteristics of future business models:

- Platform adoption
- Customer centricity
- Self-service purchasing and account management for buyers
- Digital manufacturing
- IoT, everything's connected
- B2C style experiences for B2B Buyers
- Digital Experiences are top priority





Executive Summary

IDC estimates that worldwide ICT spending by the manufacturing industry will be \$459 billion by 2022 (CAGR 5.2%). Manufacturing is the mainstay of any economy.

To be successful, every company must convince customers that it offers something different and better than competitive alternatives. A differentiated customer experience is the top strategic business priority among worldwide companies.

Customer experience (CX) refers to the whole process of interaction between a client and an organization with which it has a relationship. CX is evolving from personalization to delivering empathy at scale. Manufacturers should put customers at the core of their business by developing a customer-centricity strategy.

What can manufacturers do to deliver an excellent customer experience?

- Customers should be at the center of your business.
- Build connected ecosystems around brands to provide customers with frictionless, targeted, and personalized journeys.
- Use artificial intelligence (AI) to improve the experience across the customer journey.
- Provide a differentiated engagement and experience with the customer by developing a digital transformation (DX) platform.

IDC FutureScape: Worldwide Manufacturing & Customer Experience Predictions

By 2021, **30%** of enterprises will exploit AI and advanced customer analytics to suggest innovative customer experience actions that deliver value from a segment, persona, or individual customer perspective.

By 2022, driven by rising customer expectations and competition from the platform economy, **25%** of manufacturers will be engaged in crossindustry collaboration, resulting in a 10% revenue increase.

By 2022, 20% of buyer journeys will be transformed into joyful, exciting, colorful, fun experiences through the provision of integrated, personalized, digitally connected multimedia.

By 2024, **75%** of organizations will differentiate their customer experience with IoT order signals, real-time status visibility, and granular delivery times to portfolios of heterogeneous locations.

By 2026, **75%** of G2000 companies will use AI to develop guidance and insights for risk-based operational decisionmaking, compared to less than 5% of the G2000 today.

















By 2021, **20** of G2000 manufacturers will have digitally connected at least 30% of their robots to a cloud platform to improve operational efficiency and agility.

By 2022, due to COVID-19, 70% of consumer-facing manufacturers will leverage new direct-toconsumer channels. producing up to 15% more profits, improved customer satisfaction, and business resiliency.

To deliver complex products through networked processes, by 2022, **75%** of G2000 manufacturers will have established digital platforms to unify product and manufacturing process data.

By 2023 manufacturers will reduce on-site personnel by 30%. utilizing machine vision and AR/VR to scale offsite expertise to onsite, delivering engineering and maintenance support from anywhere

By 2024, distributed manufacturing will enable 35% of manufacturers worldwide to leverage partner and supplier networks to access 3D printing, improve customer experience, and optimize logistics cost.





Drivers With Maximum Impact on IDC's Predictions

The external drivers that have been carefully considered to have maximum impact on IDC's Worldwide Manufacturing and Customer Experience Predictions are:



RISING CUSTOMER EXPECTATIONS

More convenience, customization, and control. As disruptive organizations leverage breakthroughs in cloud, mobile, social, and AI to deliver personalized, rewarding, and immediate experiences, customers have more choices than ever. New platforms and business, operational, and organizational models are required to meet consumer expectations. Customers now expect real-time support with answers to complex questions ready at the click of a button. More people are willing to share personal data in exchange for better service, but they also want more control around their personal data.



COMPETITIVE THREATS

B2B Marketplaces like Amazon Business and consolidation in the industry make competing for market share even harder. Keeping customers is a major priority.



ABILITY TO ADAPT QUICKLY

The pandemic caused major disruptions in the global supply chain, sudden surges in demand for certain products, and the involuntary push from inperson sales interactions to remote and digital self-service reinforced the necessity of having nimble, connected commerce systems.



OPPORTUNITY TO COMPETE

While the need to innovate their buying processes with modern ecommerce experiences is clear, many manufacturers and distributors are still far behind in their digital transformations. This means there's a big opportunity for companies to deliver superior customer experiences and gain competitive edge.



NEXT CHAPTER OF DIGITAL TRANSFORMATION (DX)

Companies are maximizing efficiency and gaining major competitive advantage through advanced technology and digital strategies. B2B Ecommerce is a key component of this digital transformation



TOP PRIORITY: DIGITAL EXPERIENCES

The platform is the new battleground for innovation, developers, and marketplaces as the industry rushes to enable its customers with a range of platforms. The DX platform lies at the heart of digital transformation strategy, providing the architecture that drives and accelerates every digital initiative.



B2B BUYERS ARE CHANGING

B2B Buyers are now savvy B2C consumers and increasingly digital natives. They expect the same effortless ecommerce experiences when making B2B purchases.



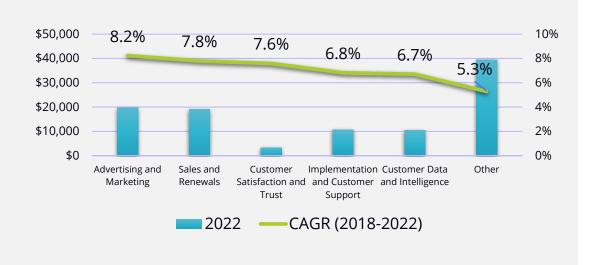


Strategic Prioritizing in Manufacturing: Differentiated Customer Experience

To achieve success, companies must convince their customer base that they can provide something different and of more value than their competitors. In today's economy, customer experiences are replacing products and product features as primary differentiators. Companies are now deploying both existing and emerging technologies along with innovation accelerators to provide customers with a differentiated experience.

Several programs are supporting this strategic priority. Each program represents a long-term plan of action to achieve the strategic priority through a series of use cases.

IDC Worldwide Manufacturing Customer Experience Spending by Program:



These use cases are discretely funded efforts supporting a program objective. IDC identifies the most relevant use cases for transforming a functional area within an organization.

PROGRAM	USE CASE	2022 (USD M)		CAGR (2018-2022)
Advertising and Marketing	Al-Driven Engagement	\$	4,653.51	7.8%
	Content Design and Creation	\$	3,397.29	8.3%
	Digital Asset Management	\$	2,503.63	9.1%
	Digital Marketing	\$	5,141.64	7.8%
	Omni-channel Content	\$	4,088.18	8.7%
Customer Data and Intelligence	Customer Journey Analysis	\$	4,161.78	7.2%
	External Customer Analysis	\$	3,201.40	6.4%
	Integrated Customer Information	\$	3,159.30	6.3%
Customer Satisfaction and Trust	Customer Satisfaction Measurement	\$	3,390.97	7.6%
Implementation and Customer	Customer Care and Support	\$	7,739.11	6.8%
Support	Digital-based Training and Education	\$	3,031.51	6.9%
	Interaction Management	\$	5,369.31	8.4%
Sales and Renewals	Order fulfillment	\$	5,454.43	7.6%
Sales and Renewals	Partner and Channel Integration	\$	3,510.95	6.2%
	Ubiquitous Commerce	\$	4,667.92	8.6%
Other	Other	\$	39,398.26	5.3%
TOTAL		\$	102.869.18	6.7%





Building a Specific Digital Road Map for Manufacturers

To obtain a differentiated customer experience, IDC provides guidance on how to prioritize the key digital transformation use cases associated with customer experience management previously identified to develop a digital transformation roadmap for manufacturers:

- Identify your baseline state and define what it will take to evolve your organization to the future digital state.
- Factor in customer journey maps, capabilities, and portfolio gaps as you establish your programs and use cases.
- Break digital road maps into horizons: A digital road map should be aligned with the overall digital strategy and contain concrete goals in horizon 1 (short-term) and more abstract and aspirational goals in horizon 3 (long-term).

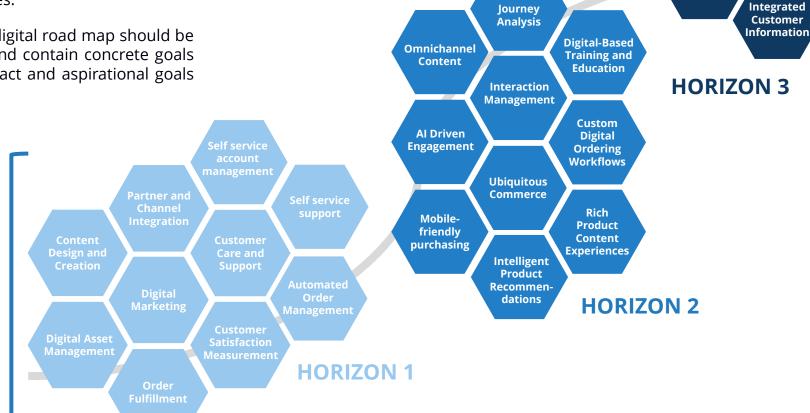
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Customer

PROGRAMS

Advertising and Marketing

Sales and Renewals

Implementation and Customer Support

Customer Satisfaction and Trust

Customer Data and Intelligence





External

Customer **Analysis**

Key Characteristics of the Customer Experience Network



Primary focus is to enhance value for the customer.



Ecosystem comprised of both **internal and external stakeholders** through communication, collaboration, and co-innovation.



Embraces customers and other stakeholders in the **ongoing** design, launch, and support of the business outcome offerings to maximize results throughout the **customer journey**.



Multidimensional: Digital component of the experience growing, offering unique and beneficial interactions, but human element still vital for success.



Singular View: Comprehensive OT and IT business, process, and technical integration.



Quality remains the overriding principle.



To achieve success, companies recognize that technology alone cannot provide optimal customer experience. There is also a **need to** invest in the development of a **customer-centric strategy**, changing corporate culture to be customer inclusive, and training employees on customer experience.





What Can Manufacturers do to Deliver an Excellent Customer **Experience?**







1. Customers Should be at the Center of Your Business

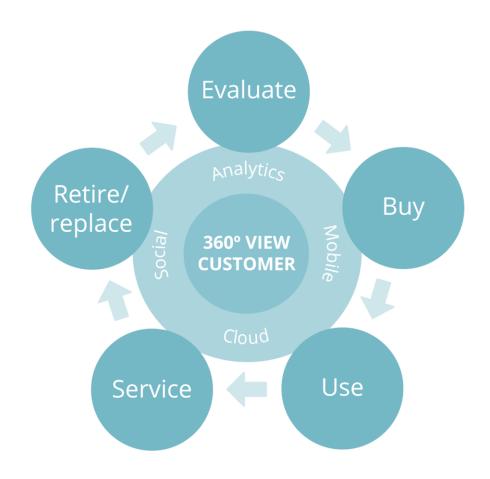
Manufacturers are increasingly being called upon to integrate customer centricity into all aspects of the product, customer, and service life cycles. Customer experience is no longer the responsibility of just the marketing and sales departments. Supplier relations, product management, quality control, and service management are all stewards of ensuring a consistent customer experience across all touch points and activities. Therefore, manufacturers must make investments in technology that support customer centricity throughout the organization.

As manufacturers seek new impactful and meaningful ways to engage with their customers, technology remains at the center of most CX initiatives. At IDC Manufacturing Insights, we are seeing a broader effort to adopt an omni-experience approach to customer engagement. Our definition of omni-experience includes the infinite combination of interactive experiences between digitally enabled manufacturers and their customers, partners, employees, and "things" that are transforming the way people communicate with each other and with the products and services that are increasingly created to meet unique and individualized demand.

IDC's customer life cycle definition:

The process of servicing a customer throughout the lifetime of their relationship with the manufacturer. This includes the following primary segments:

- Marketing
- Sales
- **Customer Service**
- Contact Center







IDC's Hierarchy of Customer Expectations: A Customer-centric Model

IDC's hierarchy of customer expectations illustrates key aspects of the commercial relationship from the customer's point of view. These expectations place specific demands on the organization's marketing and infrastructure. Most of all, they demand a customer-centric approach to all facets of running a business. For manufacturers, the key idea throughout this model is:

The hierarchy is a progressively valuable set of services that brands can use to differentiate themselves in the hearts and minds of their customers.

"Improve my personal or professional life"	Mentorship Mentorship applies to the whole life cycle of the relationship, not just marketing, and produces strong advocates that will be customers for life.
"Improve my personal or professional life"	Continuity Every customer-facing role must learn how they can enhance the ability of other functions to elevate customer experience.
"Anticipate my needs"	Recommendations are all about guiding each individual contact to the next best chapter of your story as they go from your website to your YouTube channel or an email to your webinar.
"Communicate on my terms"	Personalization Personalization means marketers must communicate in the right channel with the right content at the right cadence for each individual contact.
"Give me a reason to tell you about myself"	Consent Marketing should be based on information customers know they provided to you for that purpose.

Organizations should:

- Move beyond targeting and messaging to teaching, guiding, and even mentoring your audience throughout their careers.
- Figure out how each interaction can enhance every other interaction.
- Extend this thinking across your entire business: How can each person that serves the customer enable the next staff member to do their job better on behalf of the customer?
- Keep in mind that how you treat your customer data is how you treat your customers.
- Champion a new approach to enterprise infrastructure and embrace a customer experience orchestration services approach.

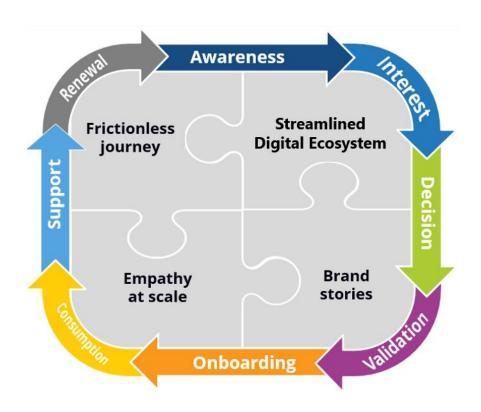






2. Build Connected Ecosystems Around Brands to Provide Customers With Frictionless, Targeted, and Personalized Journeys

Companies are investing heavily in building customer touchpoints and analysis. The transformation of businesses and experiences is moving beyond the four walls of the organization. Businesses offering frictionless experiences across their ecosystem will experience a decrease in customer attrition.





Frictionless Journeys

Central to customer experience are **frictionless journeys** that leverage assisted and digital channels.



Streamlined Digital Ecosystem

Connect all your data sources for a **streamlined digital ecosystem** that provides accurate and real-time data throughout every aspect of the customer journey.



Brand Stories

Data collected through interfaces enables enterprises to extract information about **brand engagement.** Each stage of the customer journey provides opportunities to provision positive brand experiences through connected ecosystems.



Empathy at Scale

Empathy at scale lays the foundation for customer engagement via transformational experiences, anticipation of customer needs, and the capture of micro-moments of intent with exceptional precision. CX is evolving from personalization to delivering empathy at scale around the 3 Cs: consent, conversations, and customer journey.







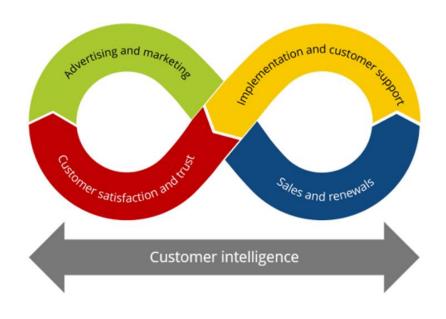
3. Use AI to Improve the Experience Across the Customer Journey

We understand the customer journey as the path that a user follows from the moment in which the possibility of acquiring a good or service is considered to post-sale services and loyalty programs to retain the customer.

The management of this customer journey is important because, in many cases, it can create a competitive advantage for a company. Addressing the customer journey in a comprehensive way is a challenge as the related technologies evolve very quickly.

Customer experience management involves the strategies, business processes, technologies, data, and corporate culture that brands employ to provide a differentiated experience to a customer.

There are a number of potential applications within and across the customer experience journey. IDC considers that these applications can be broken down into five categories that use AI to improve the customer experience provided and drive additional value for both the company and the customer:



Attract and Present

The initial application of Al in advertising, marketing, and engagement processes at the interaction point between company and customer allows companies to better understand the customer and tailor unique and personalized digital experiences for them.

Sell and Renew

Employing Al to interact with a customer to provide the customer with additional information in digital formats and support and assist employees as they interact with customers.

Service and Expand

Use of AI to directly and indirectly support the customer and the company, to obtain the highest value from the transaction or to address any issues or problems that may arise.

Build Loyalty

Application of AI to better understand and support the relationship between the customer and the company, primarily through the understanding and analysis of data associated with the relationship.

Customer Intelligence

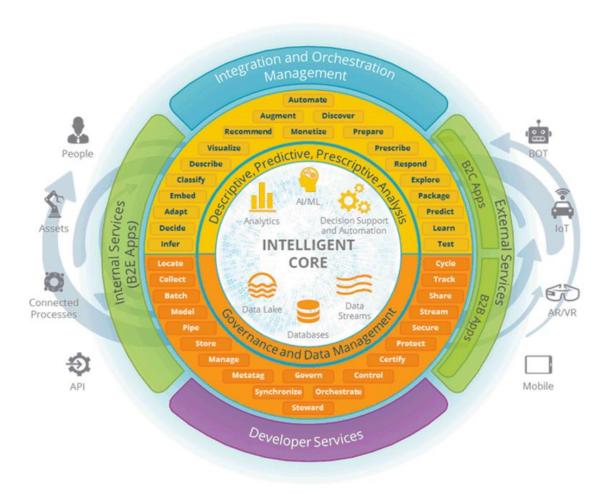
Focuses on the characteristics of the customer and the ecosystem and by applying AI to analyze the data collected around the consumer and better understand the needs and wants of customers.







4. Provide a Differentiated Engagement and Experience with the Customer by Developing a Digital Transformation Platform



The key to a successful enterprise is providing a differentiated engagement and experience with the customer. To achieve this, companies require technology that can drive and support digital engagement.

The cornerstone of digital transformation is an organization's shift in employing technology, including both internally and externally facing systems along with the data that pulses through them, to drive customer engagement.

IDC defines the digital transformation platform as the emerging technology architecture that accelerates DX initiatives for the enterprise. This platform enables the rapid creation of externally facing digital products, services, and experiences while aggressively modernizing the internal IT environment toward an intelligent core. The intelligent core serves the needs of employees, customers, partners, and the enterprise apps and services, by utilizing both the internal and external ecosystems. Its focus is producing better actions and outcomes in real time as part of the day-to-day operations of the business. The key objective is to create a network or ecosystem of connected employees, customers, and partners that use the information and services available to them.

This digital transformation platform is not only a technological structure; it is designed to work within existing and new business processes and technologies. It is an increasingly prevalent business tool that will optimize digital operations. Moreover, digital platforms enable employees and business partners to better serve prospects and customers, supporting a seamless and personalized customer journey.





Why a Digital Transformation Platform Should Support Omni-Channel

The integration of disparate systems, technologies, and operational outputs is a technological challenge that hinders digital transformation. Tackling this problem requires a DX platform approach in which customer experience, digital transformation efforts, and supply chains are managed coherently on a single platform, transitioning to an omni-channel and digital business model.

The objective of an omni-channel strategy has always been to deliver a consistent experience to the customer, regardless of the channel used (physical space, web, contact center, mobile device). The goal is to develop deeper, more immersive, and trusted relationships with the customer through all available points of contact.

OMNI-CHANNEL PLATFORM

BACKOFFICE SERVICES

Backoffice | in-house operations

Corporate applications

ERP

MANAGEMENT OF USER EXPERIENCE

User interface & digital marketing, customer service

> **ORDER FULFILLMENT**

CUSTOMER ENGINE

Order capture, configuration, payment, delivery

> **OPTIMIZATION OF CONTENT**

Adaptation and distribution

B2B/B2C **SERVICES**

Web

Mobile

Store

Partner ecosystem

Manufacturing technology is fundamentally changing, and IDC believes that the adoption of a new omni-channel platform is the best way to execute current and future customer journeys effectively and efficiently. Manufacturers need a new unified and flexible customer experience architecture that will provide a seamless composition of customer services, leveraging information, processes, and channels consistently. This architecture is built on insights that are efficiently and dynamically turned into personalized customer experience actions thanks to a unified execution platform, unified user interface, and contextual self-service or store associate empowerment. Platform integration is fundamental to delivering instant, seamless customer experiences through real-time data synchronization between systems of record and external ecosystems.

Commerce services would be an important part of this platform for manufacturers as these provide a single, unified engine to process transactions, from order capture through configuration and payments to delivery setup.

Companies should invest in a platform that combines customer journey personalization, omni-channel commerce, and fulfilment intelligence with current and future consumer interfaces, data services, and enterprise services to succeed.

OMNI-CHANNEL ANALYTICS

Mobile data management, customer data, external data

IoT platform, hardware connectivity, data management and analytics

















IDC Recommendations

- Invest in a new **digital transformation platform** and enterprise architecture that incorporates **omni-channel** to deliver a road map of the **customer journey** focusing on personalization, relevance, and automation.
- Put customers at the core of your business. Customer experience orchestration services will be essential for the success of **customer-centric** digital transformation initiatives.
- Leverage the **CX momentum** and maintain a growth trajectory. Understand the customer journey to drive organizational change to a new customer perspective, strategy, and systems.
- Incorporate AI. AI has the potential to deepen how brands understand their customers and how they can better support the customer experience.
- Use customer data with **consent**. Collect and integrate customer data across the enterprise. Allow the data to shape and improve the customer experience with the use of algorithms.

Appendix: Use Case Descriptions

PROGRAM	USE CASE NAME	USE CASE DESCRIPTION
Advertising and marketing	Al-driven engagement	Make the marketing engagement between the brand and the customer more flexible and interactive through the application of AI tools that can modify and change the company response within a broader set of options according to customer needs. Enabled by an AI engine, the digital marketing journey between the customer and the brand is unique to the needs and desires of the customer and the brand promise.
Advertising and marketing	Content design and creation	Improve engagement across channels, increase conversion rates, improve customer satisfaction, accelerate time to market, and optimize content creation spend. Organizations must implement a "build, buy, borrow" strategy to source content more effectively, leverage AI for content creation and personalization, and utilize consumption analytics to help reduce spend on content assets that don't provide a return on investment. Streamlining the planning, design, and creation of content is critical to the organization's ability to operationalize digital experience delivery and provide consistent, engaging experiences across the many channels through which customers interact with the organization/brand.
Advertising and marketing	Digital asset management	Ensure the organization's digital assets are well managed, easily found and used, and governed to protect against risk. Organizations must manage their digital assets (and collections of assets) effectively so they are easy to find and to ensure that internal and external stakeholders are using the correct assets. In addition, organizations must protect valuable intellectual property and ensure compliance for licensed assets.
Advertising and marketing	Digital marketing	Make the most compelling offer to every customer/prospect the fastest. Enable every customer interaction to enhance every other interaction in the most economical way possible.
Advertising and marketing	Omni-channel content	Build organizational experience delivery competency, leveraging investments in content and experience design to lower the cost of supporting new channels and ensure brand consistency. Deliver consistent, optimized digital experiences across all customer channels.
Customer data and intelligence	Customer journey analysis	Apply actionable real-time data that can immediately improve each customer's experience. Provide an integrated view of the direct interaction aspects of the customer journey and have the ability to integrate external data about actions outside direct interactions, such as comments on social media, into the brand understanding of the customer journey.
Customer data and intelligence	External customer analysis	Provide consistent, complete, high-quality, secure, integrated, aligned, and easily available customer intelligence from combined external and enterprise sources to the relevant staff and systems when and where it is needed. Improve decision quality, functional process outcomes, and customer experience using customer intelligence from external and enterprise sources.





Appendix: Use Case Descriptions

PROGRAM	USE CASE NAME	USE CASE DESCRIPTION
Customer data and intelligence	Integrated customer information	Improve decision quality, functional process outcomes, and customer experience using enterprise customer intelligence across all customer-touching functions. Provide consistent, complete, high-quality, secure, integrated, aligned enterprise and easily available (multifunction) customer intelligence to the relevant staff and systems when and where it is needed.
Customer satisfaction and trust	Customer satisfaction measurement	Enable real-time customer satisfaction analysis and adjust real-time customer engagement based on satisfaction analysis to meet customers' expectations. An understanding of the level of customer satisfaction with a product, service, and/or the overall experience provided by a brand is digitally enabled.
Implementation and customer support	Customer care and support	Provide a methodology for servicing interactions with an appropriate level of agent/self-service to enable more rapid processing of inquiries from simple to complex. Customers are serviced in a timely, contextual, channel independent, and predictive manner to deliver differentiated service and support.
Implementation and customer support	Digital-based training and education	Deliver a comprehensive digital-based product training that showcases product capabilities and uses. Tangential products can also be accessed at the customer's desire while reducing the number of employees that need to be involved in the training. Customer education about the product is digitally available real time anywhere and from any device to support the customer in deriving the highest value from the product specific to its needs.
Sales and renewals	Interaction management	Create "best" experiences specific to the customer and the enterprise that are consistent and seamless. Enabled by technology and data, customers are provided personalized, curated, and seamless experiences across the customer journey.
Sales and renewals	Order fulfillment	Optimally manage (buy, move, and place) inventory from suppliers to store shelves as a common resource to improve instore service levels and improve customer choice for the fulfillment of online orders. Inventory distribution planning and execution is optimized holistically to concurrently improve customer order fulfillment and store inventory service levels.
Sales and renewals	Partner and channel integration	Strong CX best practice training, measurements, and incentives are needed to drive partner competency and compliance in delivering brand CX standards. Partner management platforms along with CX training and best practice should be extended into partner programs with incentives for building competency and rewards for performance metrics.
Sales and renewals	Ubiquitous commerce	Support transactions on all current and future customer endpoints. Lower IT costs are associated with re-platforming the commerce engine. Reduce friction for customers that wish to make a purchase. Regardless of future endpoints, a customer will be able to engage with the organization's product catalog and make purchases resulting in interface-free commerce, where customers receive personalized products and services without needing to search for them.







About IDC

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Liferay is a global organization with a presence in more than 40 countries through its partner network and 24 offices worldwide. Recognized as a leading provider of digital experience platforms, Liferay makes software that helps companies to create digital experiences on the web, mobile, and connected devices. Our platform is open source, which makes it more reliable, innovative, and secure. Hundreds of organizations in manufacturing, healthcare, financial services, government, insurance, retail, and multiple other industries use Liferay. Speak with one of our experts and schedule a demo of our software by visiting liferay.com/request-a-demo.

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